

BEST AVAILABLE COPY

McGraw-Hill Dictionary of Scientific and Technical Terms

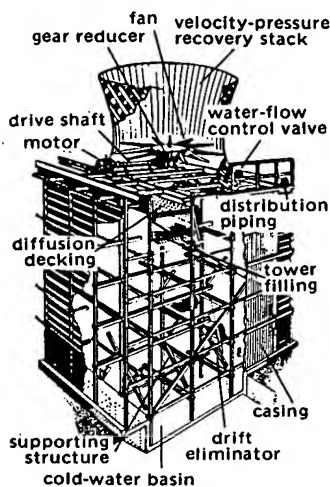
Fifth Edition

Sybil P. Parker
Editor in Chief

McGraw-Hill, Inc.

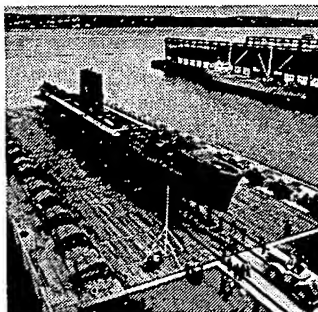
Auckland	Bogotá	New York	Caracas	San Francisco	Washington, D.C.		
Montreal	New Delhi	San Juan	Singapore	Sydney	Tokyo	Toronto	Milan

MECHANICAL-DRAFT COOLING TOWER



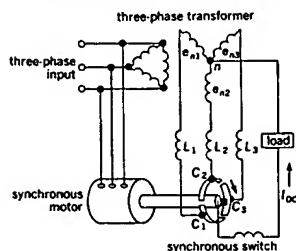
An induced-draft cross-flow cooling tower showing component parts. (N. P. Green and Associates)

MECHANICAL LIFT DOCK



An electromechanical platform-lift dry dock, capacity 4800 tons (4350 metric tons). A submarine is on the multiwheel cradle. (Pearlson Engineering Co.)

MECHANICAL RECTIFIER



Circuit of mechanical rectifier used on three-phase system; e_{a1} , e_{a2} , and e_{a3} are transformers. L_1 , L_2 , and L_3 are nonlinear reactors which provide good commutation at contacts C_1 , C_2 , and C_3 , and limit short circuit current.

mechanical-draft cooling tower [MECH ENG] Cooling tower that depends upon fans for introduction and circulation of its air supply. (mi'kan-ə-kəl 'draɪt kʊl-ɪŋ, təʊ-ər)

mechanical drawing [GRAPHICS] Drawing with the aid of instruments. (mi'kan-ə-kəl 'drɔ-ɪŋ)

mechanical dysmenorrhea [MED] Painful menstruation due to mechanical obstruction of the discharge of menstrual fluids. Also known as obstructive dysmenorrhea. (mi'kan-ə-kəl dɪ, smen-ə-rē-ə)

mechanical efficiency [MECH ENG] In an engine, the ratio of brake horsepower to indicated horsepower. (mi'kan-ə-kəl ɪ 'fɪʃ-ən-sē)

mechanical engineering [ENG] The branch of engineering that deals with the generation, transmission, and utilization of heat and mechanical power and with the production of tools, machines, and their products. (mi'kan-ə-kəl, en-jə-nɪr-ɪŋ)

mechanical equation of state [MET] An equation that expresses the relation of stress, strain, strain rate, and temperature for a metal. (mi'kan-ə-kəl ɪ 'kwā-zhən əv 'stāt)

mechanical equivalent of heat [THERMO] The amount of mechanical energy equivalent to a unit of heat. (mi'kan-ə-kəl ɪ 'kwɪv-ələnt əv 'hēt)

mechanical equivalent of light [OPTICS] The ratio of the radiant power emitted by a monochromatic light source whose wavelength is that at which the sensitivity of photopic vision is greatest (about 555 nanometers), to its luminous flux measured in lumens. (mi'kan-ə-kəl ɪ 'kwɪv-ələnt əv 'lɪt)

mechanical erosion See corrosion. (mi'kan-ə-kəl ɪ 'rō-zhən)

mechanical expression See expression. (mi'kan-ə-kəl ɪ 'spresh-ən)

mechanical filter [ELECTR] Filter, used in intermediate-frequency amplifiers of highly selective superheterodyne receivers, consisting of shaped metal bars, rods, or disks that act as coupled mechanical resonators when used with piezoelectric or magnetostrictive input and output transducers and coupled by small-diameter wires. Also known as mechanical wave filter. [PETRO ENG] Granule-packed steel shell used to filter suspended floc or undissolved solids out of treated waterflood water; granules can be graded sand and gravel, anthracite coal, graphitic ore, or aluminum-oxide plates with granular filter medium. (mi'kan-ə-kəl 'fɪlt-ər)

mechanical flotation cell [MIN ENG] A device that separates minerals from ore water pulp; it consists of a cell in which the pulp is kept mixed and moving by an impeller at the bottom of the cell; the impeller pulls air down the standpipe and disperses it as bubbles through the pulp; the floatable minerals concentrate in the froth above, and the pulp is removed by a scraper. (mi'kan-ə-kəl flō'tā-shən, sel)

mechanical gripper [MECH ENG] A robot component that uses movable, fingerlike levers to grasp objects. (mi'kan-ə-kəl 'grɪp-ər)

mechanical hygrometer [ENG] A hygrometer in which an organic material, most commonly a bundle of human hair, which expands and contracts with changes in the moisture in the surrounding air or gas is held under slight tension by a spring, and a mechanical linkage actuates a pointer. (mi'kan-ə-kəl hɪ 'grām-əd-ər)

mechanical hysteresis [MECH] The dependence of the strain of a material not only on the instantaneous value of the stress but also on the previous history of the stress; for example, the elongation is less at a given value of tension when the tension is increasing than when it is decreasing. (mi'kan-ə-kəl, hɪs-tə-rē-səs)

mechanical impedance [MECH] The complex ratio of a phasor representing a sinusoidally varying force applied to a system to a phasor representing the velocity of a point in the system. (mi'kan-ə-kəl ɪm 'pēd-əns)

mechanical instability See absolute instability. (mi'kan-ə-kəl ɪn'stə-bil-əd-ē)

mechanical integrator [COMPUT SCI] A mechanical device which draws the graph of the integral of a function when a tracing point is passed over a graph of the function. (mi'kan-ə-kəl ɪnt-ə-grād-ər)

mechanical jamming See passive jamming. (mi'kan-ə-kəl 'jam-ɪŋ)

mechanical lift dock [CIV ENG] A type of dry dock or marine elevator in which a vessel, after being placed on the keel and bilge blocks in the dock, is bodily lifted clear of the water so

that work may be performed on the underwater body. (mɪ'kæ-ə-kəl 'lɪft 'dæk)

mechanical linkage [MECH ENG] A set of rigid bodies, called links, joined together at pivots by means of pins or equivalent devices. (mi'kan-ə-kəl 'lɪŋ-kɪj)

mechanical loader [MECH ENG] A power machine for loading mineral, coal, or dirt. (mi'kan-ə-kəl 'lōd-ər)

mechanically foamed plastic [MATER] A foamed plastic having its cellular structure produced by gases that are physically incorporated. (mi'kan-ə-kəl 'fōmd 'plæs-tɪk)

mechanical mass [QUANT MECH] The part of a particle's mass which is supposed to exist in the absence of any interaction of the particle with itself through a field. (mi'kan-ə-kəl 'mas)

mechanical metallurgy [MET] The science and technology of the behavior of metals relating to mechanical forces imposed on them; includes rolling, extruding, deep drawing, bending, and other processes. (mi'kan-ə-kəl 'med-əl, ər-jē)

mechanical modulator [ELEC] A device that varies a carrier wave by moving some part of a circuit element. (mi'kan-ə-kəl 'māj-ə-lād-ər)

mechanical mucking [ENG] Loading of dirt or stone in tunnels or mines by machines. (mi'kan-ə-kəl 'mæk-ɪŋ)

mechanical mule [ORD] Popular name for a lightweight, low-silhouette United States infantry light weapons carrier, powered by an opposed-cylinder engine. (mi'kan-ə-kəl 'myul)

mechanical ohm [MECH] A unit of mechanical resistance, reactance, and impedance, equal to a force of 1 dyne divided by a velocity of 1 centimeter per second. (mi'kan-ə-kəl 'əm)

mechanical oil valve [PETRO ENG] A float-operated liquid level control valve used to control liquid flow out of oil-gas-oil separator tank systems. (mi'kan-ə-kəl 'oɪl, vɒlv)

mechanical oscillograph See direct-writing recorder. (mi'kan-ə-kəl ə'sɪl-ə-graf)

mechanical patent [ENG] A patent granted for an inventive improvement in a process, manufacture, or machine. (mi'kan-ə-kəl 'pat-ənt)

mechanical plating [MET] Deposition of one metal on another by a cold-peening process, such as tumbling. (mi'kan-ə-kəl 'plād-ɪŋ)

mechanical plotting board See coordinate plotter. (mi'kan-ə-kəl 'plād-ɪŋ bɔrd)

mechanical press [MECH ENG] A press whose slide is operated by mechanical means. (mi'kan-ə-kəl 'pres)

mechanical property [MECH] A property that involves the relationship between stress and strain or a reaction to an applied force. (mi'kan-ə-kəl 'prɒp-ərd-ē)

mechanical puddling See vibration puddling. (mi'kan-ə-kəl 'pʊd-ɪŋ)

mechanical pulp [MATER] Wood pulp produced by grinding and soaking the wood fibers. Also known as groundwood pulp. (mi'kan-ə-kəl 'pʌlp)

mechanical pulping [MECH ENG] Mechanical, rather than chemical, recovery of cellulose fibers from wood; unpurified finely ground wood is made into newsprint, cheap Manila papers, and tissues. (mi'kan-ə-kəl 'pʌlp-ɪŋ)

mechanical pump [MECH ENG] A pump through which fluid is conveyed by direct contact with a moving part of the pump machinery. (mi'kan-ə-kəl 'pʌmp)

mechanical reactance [MECH] The imaginary part of mechanical impedance. (mi'kan-ə-kəl rē'ak-təns)

mechanical rectifier [ELEC] A rectifier in which rectification is accomplished by mechanical action, as in a synchronous motor. (mi'kan-ə-kəl 'rek-tə-faɪ-ər)

mechanical refrigeration [MECH ENG] The removal of heat by utilizing a refrigerant subjected to cycles of refrigeration thermodynamics and employing a mechanical compressor. (mi'kan-ə-kəl rɪ'frɪ-jə-rā-shən)

mechanical replacement [COMPUT SCI] The replacement of one piece of hardware by another piece of hardware in investigation of the manufacturer. (mi'kan-ə-kəl rɪ'pləsmənt)

mechanical resistance See resistance. (mi'kan-ə-kəl rɪz-istəns)

mechanical rotational impedance See rotational impedance. (mi'kan-ə-kəl rō'tā-shən-əl ɪm 'pēd-əns)

mechanical rotational reactance See rotational reactance. (mi'kan-ə-kəl rō'tā-shən-əl rē'ak-təns)

mechanical rotational resistance See rotational resistance. (mi'kan-ə-kəl rō'tā-shən-əl rɪ'zɪstəns)

mechanical scale [ENG] A weighing device that incorporates